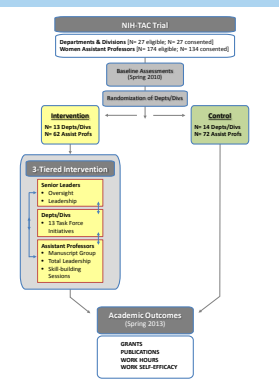


## Transforming NIH Academic Trial Culture

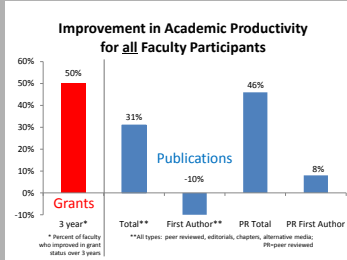


### Faculty Participant\* Characteristics

	Mean	SD
Age	41	5.1
Years as Assistant Professor	4.4	2.6
Hours worked per week	59.4	9.6
	%	N
Education: MD only	34.9%	45
MD+ PhD (and/or other advanced degrees)	37.2%	48
PhD only or PhD + master's degrees	27.9%	36
Race: African American	7.8%	10
White	60.3%	79
Asian	27.5%	36
Hispanic/other	4.6%	6
Married/domestic partner	84.7%	111
Children at home	74.9%	98
Academic track: Tenure	13.6%	18
Clinician-Educator	70.5%	93
Research	15.9%	21

- Worked nearly 60 hours per week
- 85% had a partner or were married
- 75% had children living at home

## RESULTS



Substantial improvements occurred in academic productivity over 3-year period.

Total peer-reviewed papers accepted for publication increased by 46%.

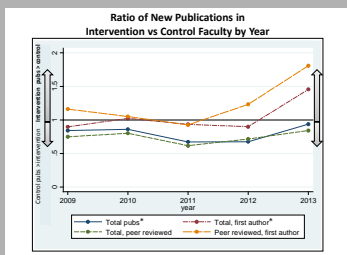
50% of faculty demonstrated improvement in grant status.

### Academic Productivity Outcomes: Intervention vs Control

	Intervention	Control	OR	P-value
% Faculty with grant improvement over 3 years	41.6%	55.7%	0.57	0.073
Avg. # Publications				
Total*	3.98	4.58	4.72	0.80
First author*	1.41	1.28	1.57	1.00
Peer reviewed: Total	2.44	3.48	3.25	0.95
First author	0.76	0.95	0.66	0.69

From 2009 to 2012, both intervention and control faculty improved their academic productivity substantially.

However, there were no statistically significant differences between the two faculty groups for grant improvement or number of new publications.



In final year of the intervention, there was a dramatic increase in the number of first author publications in the intervention group as compared to control group.

### Ratio First Author Publications Stratified by Degree: Intervention vs Control

Degrees	First Author Total Pubs	First Author Peer Reviewed
PhD only and PhD plus Master's	1.92 (p=0.02)	2.31 (p=0.003)
MD only	0.63 (p=0.09)	0.76 (p=0.45)
MD plus additional Master's or PhD	1.21 (p=0.43)	0.95 (p=0.86)
p-value for effect modification	0.004	0.001

In subgroups based on types of degrees, intervention faculty with PhDs had significantly more first author publications than control faculty with PhDs.

### Risk Ratios for 3-year Grant Improvement Stratified by Years in Rank

Years as Assistant Professor at Baseline	Risk Ratio	P-value
0-2	0.37	0.003
3-5	0.15	0.007
6+	3.72	0.045
p-value for effect modification		0.002

Substantial intervention/control differences were found in grant status based on years in rank.

In the subgroup of women assistant professors with ≥ 6 years in rank, those in the intervention were nearly 4X more likely than those in the control group to improve their grant status.

### Ratios of Publications in High\* vs Low Levels of Participation

Year	Total**	First Author**	PR Total	PR First Author
2010	0.80	0.75	1.01	0.77
2011	1.12	1.20	1.32	1.24
2012	1.15	1.69*	1.62**	2.31*
2013	1.27	0.87	2.15**	1.41
p-value for effect modification	0.008	0.005	0.030	0.006

Within the intervention group, women faculty who participated more frequently had significantly greater numbers of first author and peer reviewed publications by 2012 compared to those who participated less.

\*High participation defined as ≥ 50% participation in both of the interventions  
 \*\*All types: peer reviewed, editorials, chapters, alternative media  
 PR- Peer reviewed  
 \*p<0.05; \*\* p<0.01; models adjusted for track, time in rank, degree, work self-efficacy, and 2009 publications.

## CONCLUSIONS

- ### How to interpret?
- Too much contamination and co-intervention?
    - High visibility trial with many university and medical school strategic plans
    - Simultaneous other professional development activities (65% of control group)
  - Intervention was limited by:
    - Assistant professors already maximally incentivized to produce papers and grants
    - No release time for faculty participants
    - May need to measure other outcomes
  - Need more follow-up time →
    - Only had two months!
- ### Summary
1. NIH-TAC Trial documented substantial improvements in academic productivity in both intervention and control groups
  2. A standardized intervention across all tracks and departments may not benefit all assistant professors equally
    - By identifying specific subgroups, we can develop tailored interventions that will make a difference
  3. Only through rigorous research design and RCTs will best practices be identified that truly advance women – and all faculty